

NASA SBIR/STTR Technologies

A20.01-9354 - DSAT: Data Storage and Analytics Tool



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Identification and Significance of Innovation

The key innovation of this project is the development a large data warehousing and analysis tool for air traffic management (ATM) research that can be accessed by users through intuitive web-based User Interface (UI).

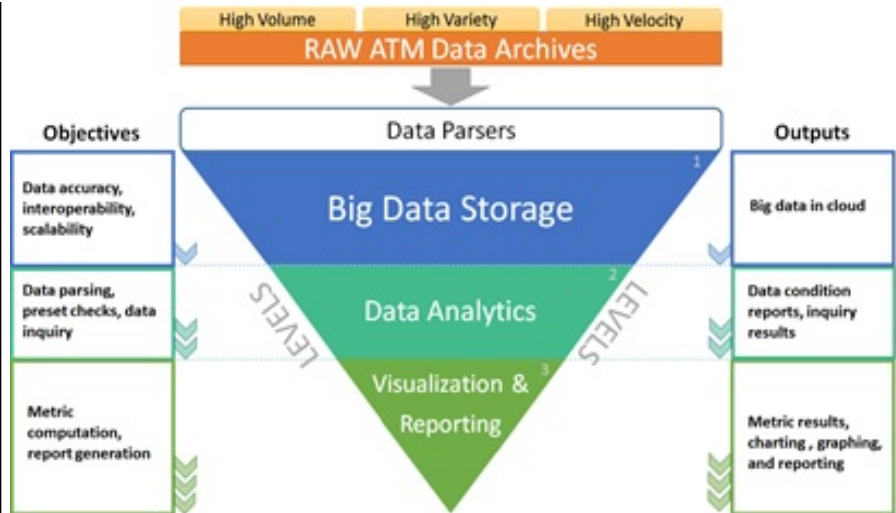
DSAT is a data storage tool, data analysis tool, and visualization and reporting tool all wrapped into one. It is built using such distributed scalable big data analytics techniques that would help ATM researchers in answering research questions, reliably, in a timely manner.

Estimated TRL at beginning and end of contract: (Begin: 2 End: 4)

Technical Objectives and Work Plan

Prototype DSAT tool and demonstrate the feasibility by analyzing an ATM scenario using real world data.

- Design and develop software architecture to extract and store ATM archive data in a cloud infrastructure
- Develop data exploration module using cubing to allow single query searches in stored ATM archive data
- Implement metrics computations using ATM archive data
- Implement a responsive interface to visualize, and report results from metric computations
- Demonstrate feasibility of the tool by simulating the chosen ATM scenario



NASA Applications

NASA: DSAT provides NASA researchers the capability to import, store, explore, compute metrics, visualize and report results on numerous heterogeneous ATM data archive using a single tool. No such tool exists today.

Non-NASA Applications

Import, storage, and visualization of big data in one tool would be attractive all research organizations including FAA and airlines. Retail, marketing, and finance institutions could use DSAT as well.

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NON-PROPRIETARY DATA